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**Title :** Comparison of two methodologies for determining diet in northern fur seals (*Callorhinus ursinus*)

**Category :** Ecology

**Student :** Not Applicable

**Preferred Format :** Poster Presentation

**Abstract :** Fecal (scat) analysis is currently the most common method of determining diet in pinnipeds. However, large or sharp prey remains may be regurgitated (spewed), possibly biasing prey size and composition results based exclusively on scats. Since spew samples occur infrequently relative to scats, they are rarely included in diet analyses. Here, we compare the frequency of occurrence (FO) and size of prey recovered from scat and spew samples from northern fur seals (*Callorhinus ursinus*) on the Pribilof Islands. Scat ( $n = 2674$ ) and spew samples ( $n = 248$ ) were collected from St. Paul and St. George Islands in the Bering Sea from 1990-1999. Identification of prey remains was based on fish bones, otoliths, and cephalopod beaks. The age of walleye pollock (*Theragra chalcogramma*) was determined from otolith to fork length regressions. Prey species composition was similar between sample type and island, but the FO values of dominant (10%) prey species (walleye pollock, salmon, and cephalopods) as well as prey size varied by sample type and island. The FO of salmon was significantly greater in St. George ( $p < 0.001$ ,  $\chi^2 = 23.9$ ,  $df = 1$ ) and St. Paul ( $p < 0.001$ ,  $\chi^2 = 57.1$ ,  $df = 1$ ) spew than in scat samples. A greater proportion of cephalopod beaks was also found in spewed samples compared to scats, but only on St. George Island where they occur at higher frequencies (spew FO = 53%, scat FO = 25%) relative to St. Paul Island (spew FO = 7%, scat FO = 11%). A larger proportion of adult sized (3 years-old) walleye pollock were found in spews (St. Paul: 88%,  $n = 26$  spews; St. George: 100%,  $n = 25$  spews) than in scat samples (St. Paul: 14%,  $n = 638$  scats; St. George: 31%,  $n = 147$  scats). These results demonstrate that the utilization of multiple sampling techniques allows for a more complete assessment of pinniped diet.